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Docket No.: KCC-13368.10

THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Maria RAIDEL
Franz ASCHENBRENNER

Serial No: 09/402,059

Filing Date: 14 February 2000

Title: ABSORBENT ARTICLE

Group No: 3761

Examiner: C. Anderson

REQUEST FOR RECONSIDERATION

Mail Stop AF

Commissioner for Patents

P.O. Box 1450

Alexandria, Virginia 22313-1450

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JUN 10 2004

TECHNOLOGY CENTER R3700

Dear Sir:

Applicants respectfully request reconsideration of the final rejection of Claims 45-49, 57-86 and 94-111, as set forth in the Office Action dated 19 April 2004.

The Examiner rejected Claims 45-49, 57-59, 62, 68-69, 71, 73-75, 82-86, 94-96, 102-105 and 107-111 under 35 U.S.C. §102(b) as anticipated by Kellenberger (EP 0,339,461). This rejection is respectfully traversed. Every independent claim requires:

an absorbent body comprising an absorbent material which absorbs 10 ml or more of water per gram of absorbent material and absorbs said water under conditions where no volume expansion is possible.

As to this claim limitation, the Examiner states:

The absorbent material [disclosed in Kellenberger] is capable of absorbing more than 10 ml of water per gram of absorbent material under conditions where no volume expansion is possible. The absorbent material is described on page 5, lines 30-44, as able to absorb 27 ml per gram of absorbent material under a pressure of 21,000 dynes per cm², or under such a pressure that volume expansion is not possible (Office Action, p. 2).

I hereby certify that this correspondence (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on

02 June 2004

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Date

Manuel Peterson
Signature

In fact, Kellenberger discloses precisely the opposite. Kellenberger discloses a superabsorbent material having an absorbency under load (AUL) of 27 grams of aqueous saline solution per gram of superabsorbent material, wherein the AUL is measured using a constant load of 21,000 dynes/cm². While absorbing the liquid, the volume of the superabsorbent material expands by an amount that is nearly equal to the volume of the liquid that is absorbed. Even when the superabsorbent is exposed to a load of 21,000 dynes/cm², essentially all of the liquid absorbed causes volume expansion.

The test method for measuring AUL is described on page 7, lines 12-52 of Kellenberger, with respect to the apparatus shown in Fig. 11. The bottom portion of a cylinder 56 is filled with a predetermined amount of superabsorbent particles 66. A piston 60 machined to closely fit without binding to the cylinder 56 is placed on top of the superabsorbent particles. The piston 60, and a weight 62 placed above the piston 60, are designed to provide a constant load of 21,000 dynes/cm² (about 0.3 psi) on the superabsorbent particles 66.

The superabsorbent particles 66 rest above a filter paper 64 and porous plate 57, which are in fluid communication with a liquid holding tank via the illustrated conduit. Fluid which passes through the porous plate 57 and filter paper 64 is picked up and absorbed by the superabsorbent particles. As further explained by Kellenberger:

The amount of fluid pickup measured after one hour is the AUL value, however, the rate of fluid pickup can also be measured. Two checks can be made to insure the accuracy of the instantaneous final readout. The height the piston 60 rises multiplied by the cross-sectional area of the cylinder 56 should nearly equal the amount of fluid picked up and the cylinder apparatus 50 can be weighed before and after the test, with the difference in weight equaling the fluid pickup (p. 7, lines 41-45).

The fact that Kellenberger uses the movement of the piston as a cross-check to determine the weight of fluid absorbed reflects a volume expansion proportional to the volume of fluid absorbed. The superabsorbent particles expand proportionally to the volume of fluid absorbed, regardless of the level of absorption.

A primary objective of Kellenberger is to provide superabsorbent materials which swell under pressure. This is apparent from the Kellenberger specification:

For purposes of this application the ability of a superabsorbent material to swell under an applied force and thereby perform work is quantified as the Absorbency Under Load or AUL (page 5, lines 30-31).

The AUL is thought to be a function of the following factors: (1) gel stiffness while swelling . . . (page 5, lines 39-40).

When the superabsorbent material of the present invention has a dry size within the defined ranges and does not break apart into smaller units when wetted, it will, upon swelling, generally expand such that it maintains a capillary structure in the matrix (page 6, lines 27-29).

The superabsorbents described in Kellenberger include polyacrylamides, polyvinyl alcohol, ethylene maleic anhydride copolymers, polyvinyl ethers, hydroxypropylcellulose, carboxymethylcellulose, polymers and copolymers of vinyl sulfonic acid, polyacrylates, starch grafted polyacrylates and the like (page 5, lines 3-6). Applicants tested a polyacrylate for absorbency under conditions where no volume expansion is possible (Specification, p. 14, lines 4-27). The polyacrylate had a maximum absorption capacity of only 1.6 grams water per gram of polyacrylate under these conditions. This confirms that polyacrylates and the like are useful as superabsorbents by virtue of their ability to swell and expand against an applied pressure.

Kellenberger does not disclose an absorbent material capable of absorbing more than 10 ml of water per gram of absorbent material under conditions where no volume expansion is possible. Therefore, no claim is anticipated.

The Examiner rejected various claims under 35 U.S.C. §103(a) as obvious over Kellenberger in combination with secondary references. These rejections are respectfully traversed.

Claims 60, 61, 76, 78 and 79 were rejected under 35 U.S.C. §103(a) as obvious over the combination of Kellenberger and LeMahieu (U.S. 5,904,672). Neither reference discloses an absorbent body comprising an absorbent material which absorbs 10 ml or more of water per gram of absorbent material under conditions where no volume expansion is possible. These claims are patentable for at least the same reasons as independent Claims 45 and 62, from which they depend.

Claims 63 and 64 were rejected under 35 U.S.C. §103(a) as obvious over the combination of Kellenberger and Luceri (U.S. 5,807,365). Neither reference discloses an absorbent body comprising an absorbent material which absorbs 10 ml or more of water per gram of absorbent material under conditions where no volume expansion is possible. These claims are patentable for at least the same reasons as independent Claim 62, from which they depend.

Claims 65, 66, 68, 70 and 72 were rejected under 35 U.S.C. §103(a) as obvious over the combination of Kellenberger and Plischke et al. (U.S. 5,977,014). Neither reference discloses an absorbent body comprising an absorbent material which absorbs 10 ml or more of water per gram of absorbent material under conditions where no volume expansion is possible. These claims are patentable for at least the same reasons as Claim 62, from which they depend.

Claims 80 and 81 were rejected under 35 U.S.C. §103(a) as obvious over Kellenberger in view of Jones, Sr. (U.S. 3,794,034). Neither reference discloses an absorbent body comprising an absorbent material which absorbs 10 ml or more of water per gram of absorbent material under conditions where no volume expansion is possible. These claims are patentable for at least the same reasons as Claim 62, from which they depend.

Claims 97-101 and 106 were rejected under 35 U.S.C. §103(a) as obvious over Kellenberger in view of Reising et al. (U.S. 4,988,344). Neither reference discloses an absorbent body comprising an absorbent material which absorbs 10 ml or more of water per gram of absorbent material under conditions where no volume expansion is possible. These claims are patentable for at least the same reasons as Claims 62 and 102, from which they depend.

There are additional differences between the secondary references and Applicants' claims. Many of the differences have already been discussed in response to previous Office Actions. For the sake of brevity, and to expedite prosecution, the foregoing comments have been crafted to focus on the main difference between Applicants' claims and the prior art. None of the prior art, alone or in combination, discloses an absorbent body comprising an absorbent material which absorbs 10 ml or more of water per gram of absorbent material and absorbs said water under conditions where no volume expansion is possible.

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Applicants believe that the claim rejections under 35 U.S.C. §102(b) and 35 U.S.C. §103(a) have been completely overcome. All previous rejections have been withdrawn. Applicants respectfully request allowance of this patent application.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Maxwell J. Petersen".

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